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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,079	12/09/2003	Masayuki Ikeno	246483US0	2768

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EXAMINER
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ZIMMER, MARC S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/730,079

Applicant(s)

IKENO ET AL.

Examiner

Marc S. Zimmer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/7/04, 4/6/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### ***Specification***

The Specification is objected to because the curing behavior observed comparative examples 1 and 3, when compared to that of Example 1, seem to suggest that, where a peroxide is absent or is added at insufficient levels, curing will not even proceed at elevated temperatures at which hydrosilylation would ordinarily proceed. The teachings of the prior art, which are given a presumption of operability, suggest otherwise. Indeed, there is no indication, for example, that upon heating the system disclosed by Haselhorst, which differs from the present system only in that it is devoid of a organoperoxide compound, crosslinking of the organosilicon materials would have been precluded. U.S. Patent # 4,329,275 to Hatanaka, likewise, discloses similar systems wherein, if the peroxide is not incorporated, storage stability is substantially reduced. Clarification is requested.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6-9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haselhorst et al., U.S. patent # 6,300,455 in view of Hatanaka et al., U.S. Patent # 4,329,275. Haselhorst discloses a hydrosilylation-curable polysiloxane mixture comprising an alkenyl-functionalized siloxane base polymer, an organohydrogenpolysiloxane, a platinum hydrosilylation catalyst, and a sterically-

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uncumbered triarylphosphite compound that serves as a pot-life extender. Relevant to the structural limitations of components (A) and (B) as set forth in claim 1, Haselhorst contemplates several embodiments of said base polymer and said hydrogensiloxane wherein at least one embodiment of the former (column 2, line 46) and at least one of the latter (column 3, lines 7 and 9) adhere fully to these requirements. Other components of the composition include HMDS-treated silica (column 4, lines 24-31) and other fillers. Haselhorst does not, however, disclose the incorporation of an organoperoxide.

Hatanaka, on the other hand, discloses an addition curable polysiloxane composition that mirrors the invention taught by Haselhorst in most respects including mention of using phosphites (compounds of the formula  $PR_3$  where R may be a monovalent alkoxy group according to column 2, lines 33-40). Haselhorst also mentions using the various phosphorus compounds in concert with an organoperoxide, examples of which are provided in the paragraph bridging columns 5 and 6. Indeed, the only reason that Hatanaka is perceived to not anticipate the claimed invention on its own is because it does not teach alkenyl-functionalized siloxanes and hydrogensiloxanes meeting the structural limitations of instantly claimed (A) and (B).

In Tables 1 and 2, Hatanaka summarizes the results of various experiments where it is illustrated that, in the absence of the peroxide (i.e. only triaryl phosphite is employed as an inhibitor), the composition loses its storage stability at a temperature that is above room temperature but beneath ordinary curing temperatures. Given the many similarities between the compositions taught by Haselhorst and Hatanaka, the

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skilled artisan would reasonably expect a similar outcome were a peroxide to be added to the composition of Haselhorst. Therefore, it would have been obvious to add a peroxide to the composition of Haselhorst to enhance its storage stability at somewhat elevated temperatures (but still beneath those at which curing is ordinarily carried out.)

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haselhorst et al., U.S. patent # 6,300,455 and Hatanaka et al., U.S. Patent # 4,329,275 as applied to claims 1-3, 6-9, and 12 and further in view of a formula taken from *Silicones, An Introduction to Their Chemistry and Applications* authored by Freeman that relates polymer chain length and viscosity and the definitions of dynamic and kinematic viscosity delineated by *Hawley's Condensed Chemical Dictionary*.

*Silicones* states that, for a linear polydimethylsiloxane, the viscosity is related to chain length by

$$\log \eta = 0.1 n^{1/2} + 1.1$$

where  $\eta$  is the viscosity of the polymer in centistokes. Rearranging to isolate  $\eta$  and inserting the number of repeating D units as defined by the formula taken from Haselhorst,

$$\eta = \text{inv log } [(0.1 * 300^{1/2}) + 1.1] = 679 \text{ cs.}$$

The claim, however, reports viscosity in mPa's (1 mPa's = 1cp) which is a measurement of dynamic viscosity instead of kinematic viscosity. According to the definition of these parameters taken from *Hawleys*, kinematic viscosity is dynamic viscosity divided by the density of the polymer. Table 2.2 also taken from *Silicones* states that the density of a polysiloxane tends toward 1 as the number of repeat units

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increases hence the two are nearly equal. That is, the dynamic viscosity in mPa's of the corresponding polymer taught by Haselhorst is around 679.

As an aside, it is appreciated that the polymer taken from Haselhorst

***Allowable Subject Matter***

Claims 5, 10, and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Neither of the references teach the materials disclosed in claims 10 and 11 nor could the Examiner ascertain why their incorporation would be obvious, especially since no potential applications for the silicone composition of Haselhorst were mentioned.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 6, 2005

*Marc Zimmer*

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